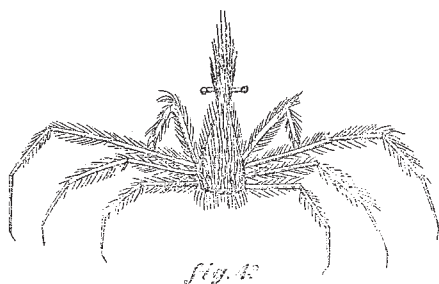


clinging to the cable, sometimes in thick groves of red and yellow algæ, slender, transparent, feathery grasses, red, slimy fucoids, and tufts of amethyst moss. We found branching coral plants, upwards of a foot in height, growing on to the cable, the soft skeleton being covered with a fleshy skin, generally of a deep orange colour. Sometimes a sponge was found attached to the roots of these corals, and delicate calcareous structures of varied tints encrusted the stems of all these plants, and served to ornament as well as strengthen them. Parasitic life seems to be as rife under these waters as it is on these shores. Many star-fishes, zoophytes, and curious crabs were likewise pulled in, clinging to the cable. The latter were frequently completely overgrown with the indigenous vegetation of the bottom, or of the colour of the sand there, and so were scarcely distinguishable from it. Others, although not so covered, were found to have the same tints as the vegetation they inhabited, and even in structure resembled the latter somewhat. Others, again, were perfectly or partially transparent; and one most beautiful creature, perhaps new to science, united singularly enough in its person several prevailing colours of the bottom. Its slender limbs (Fig. 1), like jointed filaments of glass, were stained here and there of a deep topaz brown (*a*). Its pointed snout (*b*) was of a deep scarlet; its triangular body (*c*) of a light yellow; its eyes were green, and its tiny hands (*d*) an amethyst blue.

Another very active crab or water-beetle was also picked up. It was quite transparent, and had bright green highly convex eyes (Fig. 2).

Another creature (Fig. 3) of quite a different description was also picked up. It was more like a water-spider than anything else. Its transparent hair-like limbs were dappled with dull green, and it seemed a mere skeleton



framework made to carry a small white sac containing entrails, which was slung underneath. These three distinguished specimens were entirely free from parasitic weeds, and were the only ones of their kind observed. Many crabs (Fig. 4), generally resembling Fig. 1 in shape, but altogether ruder in form, were found in plenty, all bearded with moss in the manner shown. While looking at these frail organisms, one was forced to conclude that there must surely be little disturbance in their habitats.

The temperature varied from 79° F. in the deeper water to 83° F. in the shallower. The cable was most thickly encrusted with vegetation in depths of thirty to forty fathoms, and there was a very sensible falling off when the depth reached sixty fathoms, and the water became salter and more free from silt.

The specimens, Figs. 1 and 2, were found in water of thirty and forty fathoms respectively, about lat. 0° 55' N., long. 48° 8' W., off the coast of Marajo, or Joannes Island.

The specimens, Figs. 3 and 4, were found in water of sixty fathoms, sixty miles off the coast, about lat. 2° 56' N.

The few unlucky waifs observed of the many which came up are at least sufficient to hint at the wonderful variety of submarine life there may be in the littoral zones of these regions, which are well worthy of being

examined by naturalists; and picking up cables suggests a novel way of dredging for them.

8. *Fishes' Bites*.—The cause of our picking-up operations is in itself worthy of remark. We found that the cable had been bitten in several places by fishes powerful enough to displace the iron sheathing and pierce the cable to the core with their teeth, pieces of which we found sticking in the bitten places. There is reason to believe that the electric current had given them a shock and caused them to quit their morsel rather hastily. The bites were all located in the cable off the Delta of the Amazon, and had undoubtedly taken place when the cable was freshly laid, and before it was rendered inconspicuous and unattractive by the submarine fauna and flora.

J. MUNRO

THE BIRMINGHAM COLLEGE OF SCIENCE

SOME months ago we intimated that Sir Josiah Mason had set aside a munificent sum of money wherewith to erect and endow a College of Science in Birmingham. On Tuesday last, his eightieth birthday, the donor laid the foundation-stone of the building, in presence of a large gathering, composed of representatives of various public bodies.

We have already given some details of Sir Josiah Mason's scheme, which appears to us exceedingly judicious, liberal, and comprehensive. The entire sum to be spent by the wise and generous founder will amount to upwards of 100,000*l.*, of which 65,000*l.* will be reserved for endowment. The plan of education comprises courses of instruction in mathematics, abstract and applied; physics, both mathematical and experimental; chemistry, theoretical, practical, and applied; the natural sciences, especially geology and mineralogy, with their application to mines and metallurgy; botany and geology, with special application to manufactures; physiology, with special reference to the laws of health; and the English, French, and German languages. The course of study may also, in the discretion of the trustees, include such other subjects of instruction as will conduce to a sound practical knowledge of scientific subjects, excluding mere literary education. It is provided that popular or unsystematic instruction may be given gratuitously or by fees in the discretion of the trustees, and shall be open to all persons without distinction of age, class, creed, race, or sex. Theology and theological or religious subjects are absolutely excluded from the curriculum. Students must be between the ages of fourteen and twenty-five, and must pass such preliminary examination as the trustees may direct. In exceptional cases, students above twenty-five will be admitted; but these must not exceed the proportion of one to ten. The founder has decided that a certain proportion must be selected on grounds which are reasonable and not too narrow. The original trustees are Mr. W. C. Aitken, Mr. J. Thackray Bunce, Dr. Gibbs Blake, Dr. Heslop, Mr. G. J. Johnson, and Mr. George Shaw, and the Town Council of Birmingham is empowered to appoint five additional trustees after the death of the founder. The building, which is in the early pointed style, from designs by Mr. J. A. Cossins, architect, of Birmingham, will occupy an area of about an acre, with frontages on either side of 149 feet and 127 feet respectively, in the immediate vicinity of the Town Hall, the Midland Institute, and the new municipal buildings.

After the ceremony of laying the foundation-stone, a meeting was held in the Queen's Hotel, at which, among others, Mr. John Bright was present, and paid a deserved tribute to the far-seeing liberality of the founder of the College. Sir Josiah Mason himself, in an address marked by moderation and great sagacity, gave a simple account of his own career, in which he has amassed a fortune by patient industry, and spoke with great emphasis of the

difficulties which he and his contemporaries had to encounter in their youth from the want of any means of carrying on their education, especially in science, during the intervals they had to spare from work. The aims which he has in view in founding the College may be gathered from the following extract from his address:—

"Whatever is necessary for the improvement of scientific industry and for the cultivation of art, especially as applied to manufactures, the trustees will be able to teach; they may also, by a provision subsequent to the original deed, afford facilities for medical instruction; and they are authorised, and indeed enjoined, to revise the scheme of instruction from time to time, so as to adapt it to the requirements of the district in future years, as well as at the present time. It is not my desire to set up an institution in rivalry of any now existing; but to provide the means of carrying further and completing the teaching now given in other scientific institutions and in the evening classes now so numerous in the town and its neighbourhood, and especially in connection with the Midland Institute, which has already conferred so much benefit upon large numbers of students, and which I am glad to see represented here to-day. My wish is, in short, to give all classes in Birmingham, in Kidderminster, and in the district generally, the means of carrying on, in the capital of the Midland district, their scientific studies as completely and thoroughly as they can be prosecuted in the great science schools of this country and the Continent; for I am persuaded that in this way alone—by the acquirement of sound, extensive, and practical scientific knowledge—can England hope to maintain her position as the chief manufacturing centre of the world. I have great and I believe well-founded hope for the future of this foundation. I look forward to its class-rooms and lecture-halls being filled with a succession of earnest and intelligent students, willing to learn not only all that can be taught, but in their turn to communicate their knowledge to others, and to apply it to useful purposes for the benefit of the community."

Thus it will be seen that Sir Joseph Mason's design has been conceived in a spirit of true wisdom; he perceives that the prosperity of Birmingham, like the prosperity of the country at large, depends upon the extent to which every branch of history is founded upon a broad and deep scientific basis. He evidently does not intend that his institution will become a mere "Technical" College. We should think that the trustees will carry out the design and wishes of the founder if they aim to make the Mason College do for Birmingham what the Owens College is doing for Manchester. Moreover, we hope that as in the case of Manchester other endowments will be added to that of the wise and generous founder, and that thus the trustees will be able ultimately to carry out his ideas to their fullest development. Meantime all who have the cause of scientific education at heart, all who wish for the highest prosperity of the country, will feel warm gratitude to and admiration for Sir Joseph Mason, a true benefactor to Birmingham, to England, and to Science.

NOTES

WE can only, this week, express our regret—a regret which is universal—at the death of Sir Charles Lyell, Bart., F.R.S., which took place on Monday last. Sir Charles was born on Nov. 14, 1797, so that he was nearly 78 years of age. We hope to give an obituary notice in our next number.

WE regret to announce the death, on Feb. 17, of the celebrated astronomer, Prof. F. W. August Argelander, at Bonn. He was born at Memel on March 22nd, 1790, and began his studies at the University of Königsberg, where he soon became a zealous pupil of Bessel, and in 1820 his official assistant at

the Observatory. Three years later, he followed a call to Abo (Finland), and his principal occupation there was the observation of fixed stars showing large proper motions. These observations were continued at Helsingfors, where he settled in 1832. He succeeded in pointing out nearly 400 fixed stars, which in the time from 1755 until 1830 have moved over more than fifteen seconds in the direction towards the constellation of Hercules. In 1837, when his pamphlet "On the Motion of the Solar System" had appeared, he received an invitation from the University at Bonn, where an observatory was being built, which was completed in 1845. Here he continued his studies most energetically, and particularly investigated the variable stars. In his "Uranometria" he gave excellent determinations of star-magnitudes. His celestial atlas, which was only completed a little while ago, comprises all stars from the first to the tenth magnitude; it is entirely based on his own determinations of position, and decidedly ranks amongst the best works of the kind.

AN important telegram was received by the French Academy of Sciences, at its sitting of the 22nd February, from M. Mouchez, the head of the St. Paul Transit Station. It is said that the observation of internal contacts was perfectly successful. The external contacts were not good, owing to clouds, the weather having been bad for three months. Numerous photographs have been taken. A steamer had left St. Paul for Cherbourg, bringing the detailed results of the observations.

AT the same sitting, M. Dumas announced that the Academy had received, almost at the same moment, two different parcels sent by two different ships, both consisting of documents sent by Capt. Fleuriat, the head of the Pekin Transit Expedition. These parcels, having been sealed, will not be opened for some time to come.

THE following quaint extract from the *Gazetteer* of May 31, 1769, will no doubt have some interest for our readers at the present time:—"The Transit of Venus over the sun is a phenomenon whereby the astronomers can determine the distance of the sun from the earth, and the dimensions of the whole solar system, more accurately than by any other method. Such a transit will be visible near London on Saturday afternoon, June 3, a little after seven o'clock, if the weather be fair; and never more for this age, nor perhaps for many ages to come, will such a phenomenon be seen in this quarter of the world. The curious, both ladies and gentlemen, who are desirous of being entertained with a sight of this phenomenon, may have the best situation for that purpose, with the assistance of proper persons and telescopes, at Mr. Lightfoot's, at Denmark Hall, on Camberwell Hill, in the road towards Dulwich, where the best of accommodations and wines may be had."

AN official intimation has been received from Dr. Neumayer confirming the announcement, as regards the Deutsche Seewarte at Hamburg, contained in the *Times* telegram noticed in our last number. It appears that the Government have purchased Herr v. Freeden's interest in the establishment, and that he has no longer any connection with it. It does not yet appear what is the relation of the Hydrographic Office at Berlin, of which Dr. Neumayer is chief, to the Deutsche Seewarte, which is also under him.

A SOCIETY has been formed in Calcutta for obtaining spectroscopic observations of the sun.

WE are much gratified to hear that the Committee of the Chester Society of Natural Science recommend for the consideration of the members that a permanent memorial to the late Canon Kingsley, their founder and president, be established. The memorial proposed and recommended is (1) That a Scholarship (including a medal), to be called "The